



Cigar Box Guitar

Written By: Ed Vogel



TOOLS:

- [Drill and drill bits \(1\)](#)
- [Hacksaw blade or hacksaw \(1\)](#)
- [Phillips screwdriver \(1\)](#)
- [Scissors \(1\)](#)



PARTS:

- [Pen pencil or markers \(1\)](#)
- [Cigar box \(1\)](#)
[Many tobacconists will give cigar boxes away free. I usually end up paying a dollar for them at a place near my house. If you can't find a cigar box, an intact pizza box will also work.](#)
- [Mason twine 15 and 18 \(1\)](#)
[Available at hardware stores, this is used by bricklayers and cement workers to mark lines.](#)
- [1/4"x3" eyebolts and nuts \(3\)](#)
- [12x5 8" wood screws \(3\)](#)
- [3' length of 1x2 red oak \(1\)](#)
[This will be the guitar's neck. The lumber's actual measurements are 3/4" by 1 1/2", but 1x2 is how it's named.](#)
- [1/4" square hardwood stock at least 1 1/2" long \(1\)](#)
[This will be the nut, at the top of the neck.](#)

- [1/2" square hardwood stock at least 1 1/2" long \(1\)](#)
[This will be the bridge.](#)
- [Super glue \(1\)](#)
- [90-second epoxy \(1\)](#)
[\(or 5-minute epoxy, for a little more positioning time\)](#)
- [1/4" washers \(6\)](#)
- [1/4" wing nuts \(3\)](#)
- [2" common nails \(at least 3\) \(1\)](#)
- [3 1/2" x 1" \(size 33\) rubber bands \(1\)](#)
- [OPTIONAL \(1\)](#)
[1500-3000Hz piezo-electric element \(a.k.a. piezo buzzer\) for amplifier pickup, 1/4" phono jack, soldering iron, solder and wire](#)

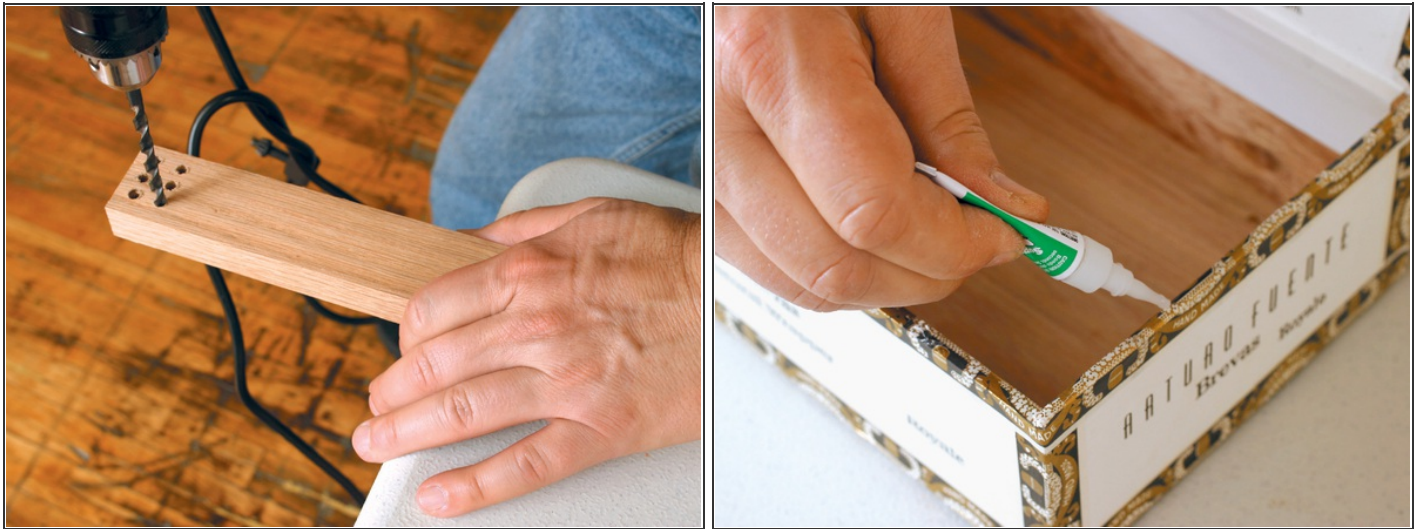
SUMMARY

As a volunteer music teacher, I sometimes meet kids who can't afford instruments. So I decided to design one that they could inexpensively build themselves, based on the traditional cigar box guitar.

Before the 1950s, when factory guitars became less expensive, many folk musicians built their own stringed instruments. Wooden cigar boxes, which were solidly constructed connoisseur objects, became a popular choice for the instruments' bodies. Thus, an American tradition was born, and today, the cigar box guitar is enjoying a folk revival.

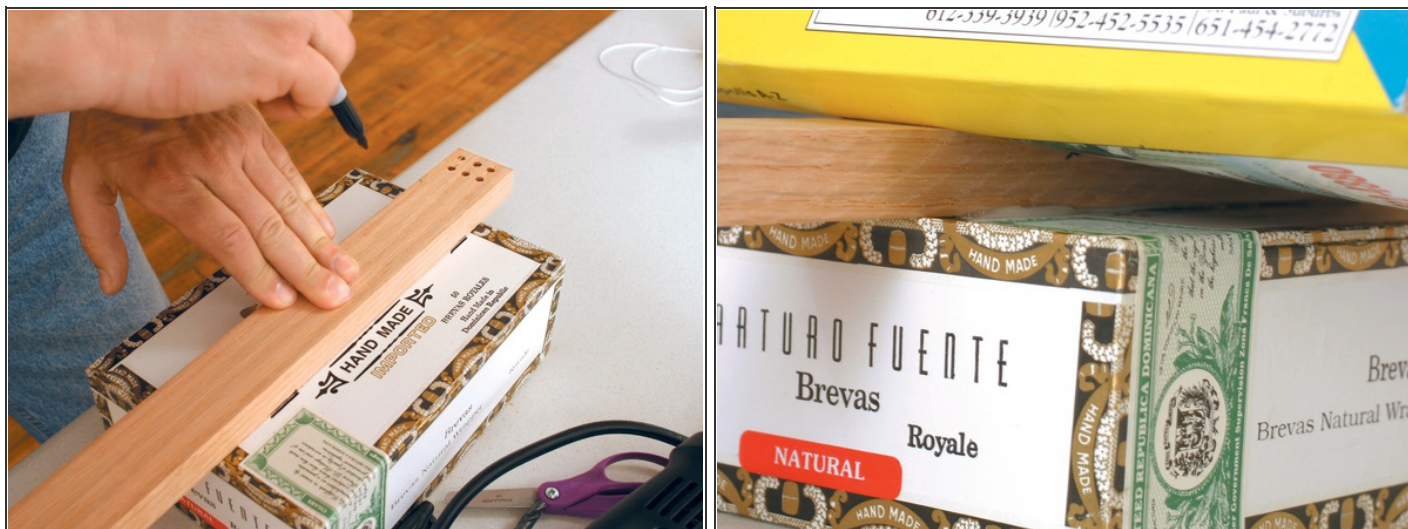
My guitar is a simple, three-stringed design that uses only one power tool and common hardware. Despite its low cost, this guitar plays real music and will hold its tuning for a couple of days. A kid can build it (and play it), and so can you.

Step 1 — Assemble the neck and body.



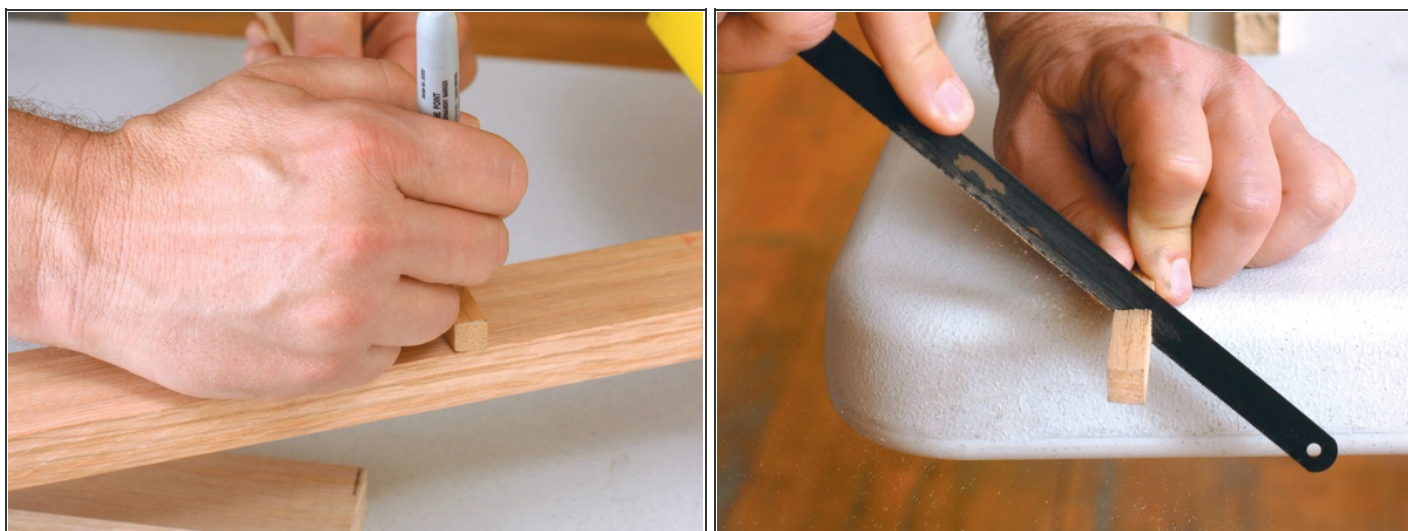
- Using the diagram*****DIAGRAM TO COME*****, drill holes at each end of the 1x2. You'll drill six holes in two rows at the tail, to anchor the strings below the bridge, and six more in two diagonal rows where the tuning pegs will be.
- If you want to add an electric pickup to your guitar, skip ahead to the last step. Otherwise, super-glue the cigar box shut.

Step 2



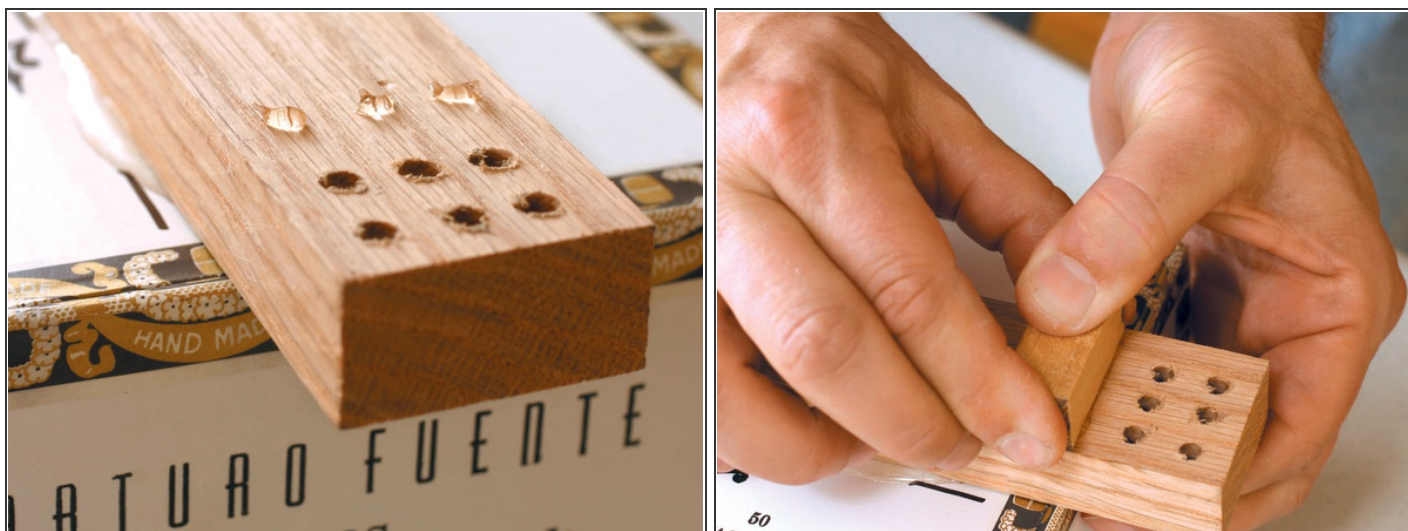
- Set the neck squarely on the box so that its six holes are just clear of one of the box's ends. Mark the box along both sides of the neck, so you know where to put the glue.
- Mix up some epoxy. I recommend using half a tube, since there may be some gaps to fill.
- Apply a generous amount of epoxy to the cigar box, position the neck on top, and weigh it down with a phone book or other weight. With 90-second epoxy, I wait 5 minutes to get a decent cure.

Step 3



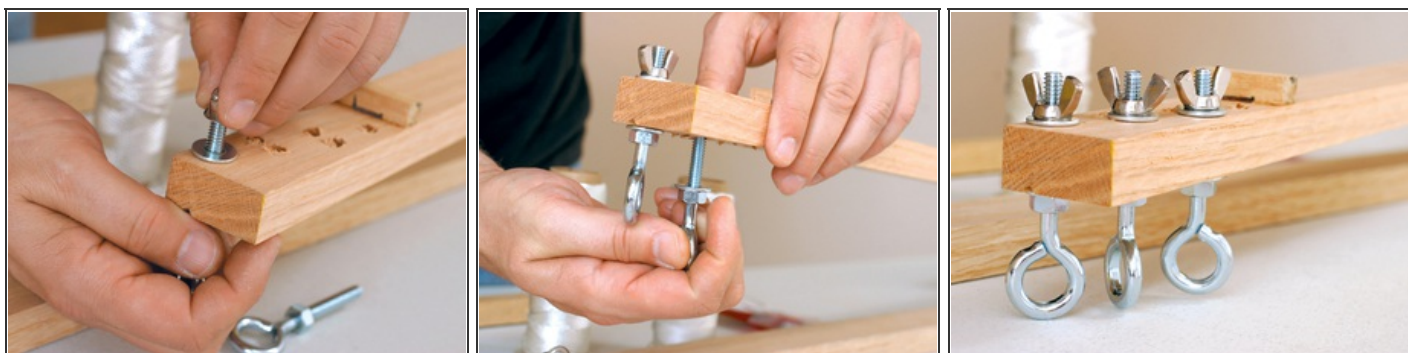
- Use the pen to mark the width of the neck (1½") on the ½" square stock. This will be the bridge.
- Use the hacksaw blade to cut the bridge.

Step 4

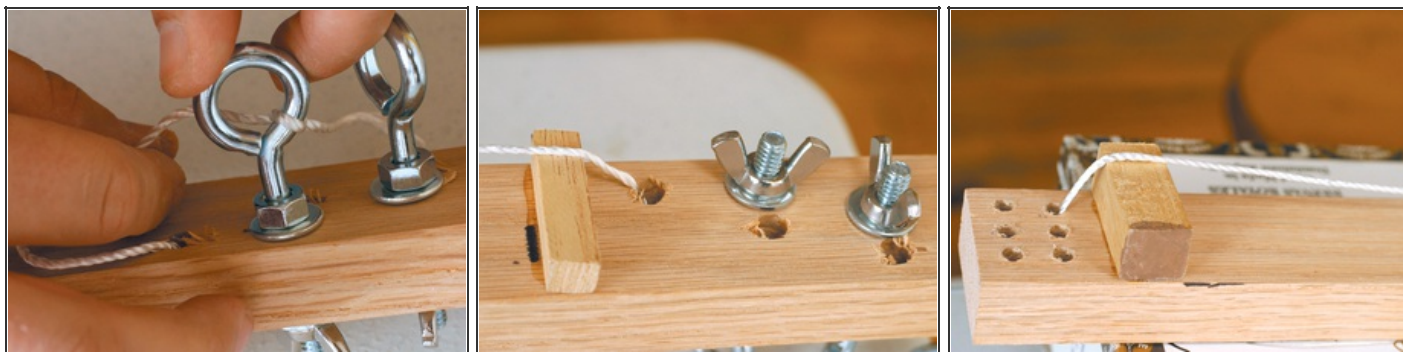


- Put down three dots of super glue for the bridge about $\frac{1}{2}$ " up from the six holes at the tail end of the neck.
- Set the bridge down on the glue and hold it long enough to sing "Twinkle, Twinkle, Little Star" twice. This song will help you tune later on.
- Repeat steps 3 and 4 using the $\frac{1}{4}$ " stock. Glue the nut six inches from the opposite end of the neck.

Step 5 — String the guitar.

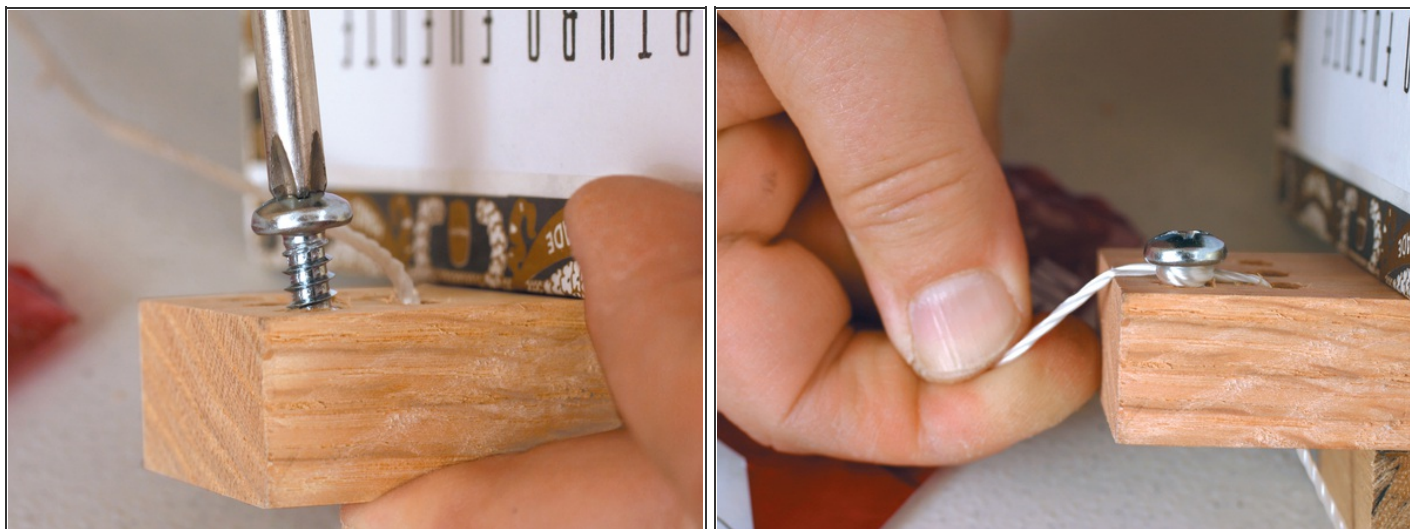


- Take an eyebolt, spin a nut down the threads, add a washer, and then insert it up into a tuner hole at the end of the neck. Put another washer on top and spin on a wing nut.
- Repeat with the other two bolts, and tighten all three to light-finger tight. Are you still humming "Twinkle, Twinkle"? It can become a real earworm. This will work in your favor later, for tuning and playing.

Step 6

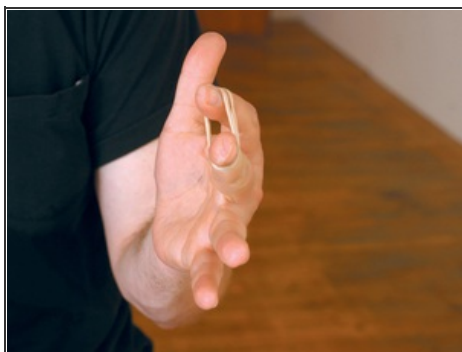
- Cut a piece of #18 mason twine about 5 feet long. You won't need all of it, but ends get frayed and we need some slack for pulling on. Thread the string through the empty tuner hole closest to the nut, and tie the end to the adjacent eyebolt in back. Make sure the knot is on the side where the "eye" starts its bend, so that it won't slip out when we tighten the string.
- Spin the eyebolt clockwise three times to get some string wrapped on. Tighten the wing nut to firm-finger tightness. Pull the string over the nut.
- Pull the string over the bridge and thread the other end down the corresponding hole just below.


Step 7

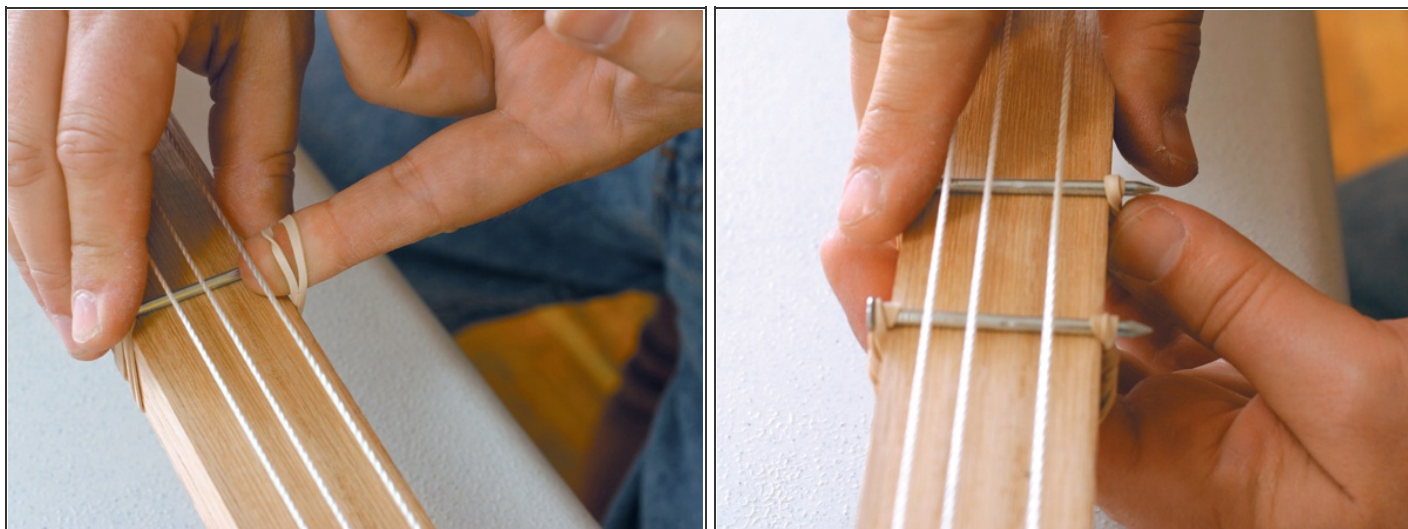


- Get a screw started in the hole on the other side, but leave some of the threaded part showing so it's easy to wrap the string around it.
- Here is where some slack is handy. Make a loose loop of string around the screw, and then wrap the slack around your hand so you can pull the string tight while you tighten the screw to secure the string.
- Congratulations! You've just installed your bass string. Go back to the first bullet point of Step 6 where you cut a piece of mason twine into a 5 foot length and continue through Step 7, using the #15 mason twine, for the tenor and alto strings.

Step 8 — Add the frets.




- You can usually just find the proper fret locations by singing the major scale. This picture shows approximately where they will go, but it'll take some tweaking to get it right. On my guitar, the five frets went from Re at 2½ inches down from the nut, to La at 11¾ inches down. Try plucking the string and listening for a tone, then marking a dot at the spot with a pencil. 
- To attach a fret, first take a rubber band and double-loop it.
- Fit the looped rubber band to a nail near the head.

Step 9

- Place the nail at a fret position, and pull the rubber band up from underneath the neck. Stretch and loop it around the pointed end of the nail. Notice how the nail point is pointing up. This is a good thing.
- Repeat the last three steps above to attach frets for Re, Mi, Fa, Sol, and La. Sing those notes a few times to get that going in your head because it is going to help you tune your guitar. You can add frets farther up, if you want, and the reason my guitar only has frets up to La, instead of up the full scale to Do, is almost maniacal: those are the notes you need to play “Twinkle, Twinkle, Little Star.” And nothing else matters.

Step 10 — Electrify! (optional)



- You can testify; now you must electrify! Here's how to add a quick-and-dirty (and I do mean dirty) pickup, so you can play your cigar box guitar through an amp. If you already know you'll want to play electric, it's easier to perform these steps first, before you build the rest of the guitar. 
- Drill a 3/8" hole in the tail end of the box and mount the 1/4" phono jack. (If you've already glued the box shut, you'll have to jimmy it back open with a hobby knife.)
- Glue the piezo element inside the box as shown, and solder two wires to connect the piezo pickup to the phono jack terminals. Then glue the box shut. If you haven't already built the rest of your guitar, jump back to the beginning of step 2, and continue from there.
- Plug in and rock out! If you find that the pickup is picking up sounds other than the guitar, try covering the sound hole of the piezo element with a couple of pieces of duct tape.

This project first appeared in [MAKE Volume 04](#), page 76.

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